

GAO

United States General Accounting Office

Briefing Report to the Honorable
Ike Skelton, Ranking Minority Member,
Committee on National Security, House
of Representatives

March 1998

MILITARY AIRCRAFT SAFETY

Serious Accidents Remain at Historically Low Levels



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National Security and
International Affairs Division

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March 23, 1998

The Honorable Ike Skelton
Ranking Minority Member
Committee on National Security
House of Representatives

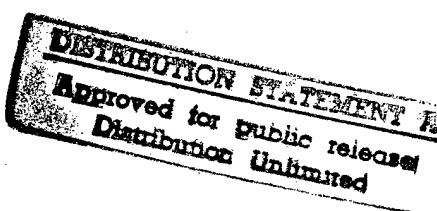
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Dear Mr. Skelton:

At your request in May 1995, we reviewed the military aircraft safety record across the Department of Defense (DOD) and reported that the military's accident rate in fiscal year 1995 was at its lowest point in 20 years. In September 1997, you noted that a series of serious accidents had occurred over a short period of time and asked that we provide updated information on military aircraft safety. Specifically, we (1) identified the number and rate of serious accidents, including related fatalities, destroyed aircraft, and the value of lost aircraft over the last 2 fiscal years and added it to the information we had previously collected to assess trends and (2) obtained the views of DOD safety officials on whether operating tempo or availability of spare parts have been contributing factors to Class A mishaps.

Background

Flight mishaps involve any reportable damage to an aircraft that is preparing to fly, in flight, or completing a landing. Flight mishaps are classified by DOD according to the severity of resulting injury or property damage. Class A mishaps involve damage of \$1 million or more, a destroyed aircraft, or a fatality or permanent total disability. The remaining classes of mishaps are distinguished primarily by their loss value and severity of injury: Class B accidents involve damage ranging from \$200,000 to less than \$1 million, permanent partial disability, or inpatient hospitalization of five or more people; Class C accidents involve damage ranging from \$10,000 to less than \$200,000 or a lost-time injury; and Class D accidents involve damage of less than \$10,000. Our review focused on Class A flight mishaps only. DOD requires that all mishaps be investigated so that causes can be identified and corrective actions taken to prevent future occurrences. Service safety centers¹ play a key role in maintaining aviation mishap statistics, establishing safety policies, disseminating safety information, reviewing mishap investigation reports,



¹These centers are the Naval Safety Center, Norfolk, Virginia; Air Force Safety Agency, Kirtland Air Force Base, New Mexico; and the Army Safety Center, Ft. Rucker, Alabama. In addition to its involvement in Navy safety, the Naval Safety Center also monitors investigations of Marine Corps aviation mishaps.

tracking recommendations, and performing safety studies. In addition, the safety centers analyze trends to identify potential safety hazards.

In our 1996 review,² we reported that DOD aviation safety had improved significantly over the previous two decades. Between fiscal year 1975 and 1995, for example, the annual number of Class A mishaps decreased from 309 to 76, while the number of fatalities decreased from 285 to 85. During this period, Class A mishaps per 100,000 flying hours, referred to as the mishap rate, also decreased from about 4.3 to 1.5. The value of Class A losses during the early 1990s ranged from a high of about \$1.6 billion in fiscal year 1993 to a low of \$1.2 billion in fiscal year 1994.

We also reported that no direct link appeared to exist between operating tempo and safety mishaps, but human error was identified as a contributing cause in 73 percent of the Class A flight mishaps in fiscal years 1994 and 1995.

Results in Brief

Overall, in fiscal years 1996 and 1997, the military achieved historically low levels of serious mishaps. The number of Class A flight mishaps across DOD in fiscal year 1997 was 68, an all-time low, and the rate of mishaps per 100,000 flying hours remained virtually the same for the last 3 fiscal years at about 1.5. While the number of fatalities rose from 85 in 1995 to 116 in 1996 due to several high-casualty mishaps, they declined in 1997 to 76, DOD's second lowest level ever. The fatality rate per 100,000 flight hours shows annual fluctuations depending upon the types of aircraft involved, but it has been within the low end of its historic range over the last 10 years. New lows on the number of destroyed aircraft (54) and the rate of destroyed aircraft per 100,000 flight hours (1.2) were also reached in fiscal year 1997. Finally, the value of the aircraft lost reached its lowest level in the 1990s, \$1.1 billion. Detailed trend statistics on military aircraft safety are shown in appendix I.

With regard to any possible safety impact of operating tempos and availability of spare parts, service safety officials indicated that neither has been identified as a contributing causal factor in any of the Class A flight mishaps over the last few years.

Agency Comments

We discussed the information in this report with DOD officials and incorporated their comments where appropriate.

²Military Aircraft Safety: Significant Improvements Since 1975 (GAO/NSIAD-96-69BR, Feb. 1, 1996).

Scope and Methodology

We analyzed annual statistics for fiscal years 1996 and 1997 on the number of Class A flight mishaps, fatalities, destroyed aircraft, and dollar losses and compared them to the data we had previously collected on accidents between 1975 and 1995 to identify trends.

We conducted our review from September 1997 to February 1998 in accordance with generally accepted government auditing standards.

We are sending copies of this report to other interested congressional committees and Members of Congress; the Secretaries of Defense, the Army, the Navy, and the Air Force; and the Commandant of the Marine Corps. We will also make copies available to other interested parties on request.

The major contributor to this report was William E. Beusse. If you or your staff have any questions concerning this report, please contact me on (202) 512-5140.

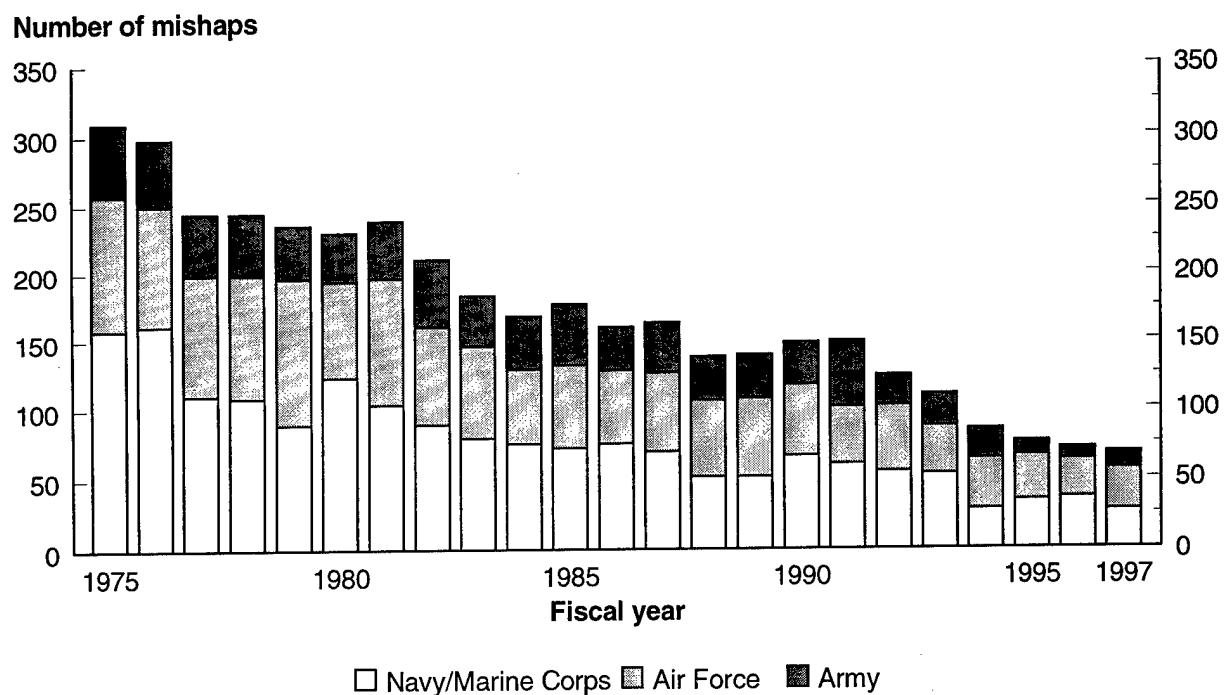
Sincerely yours,



Mark E. Gebicke, Director
Military Operations and Capabilities

Aircraft Mishap Trends

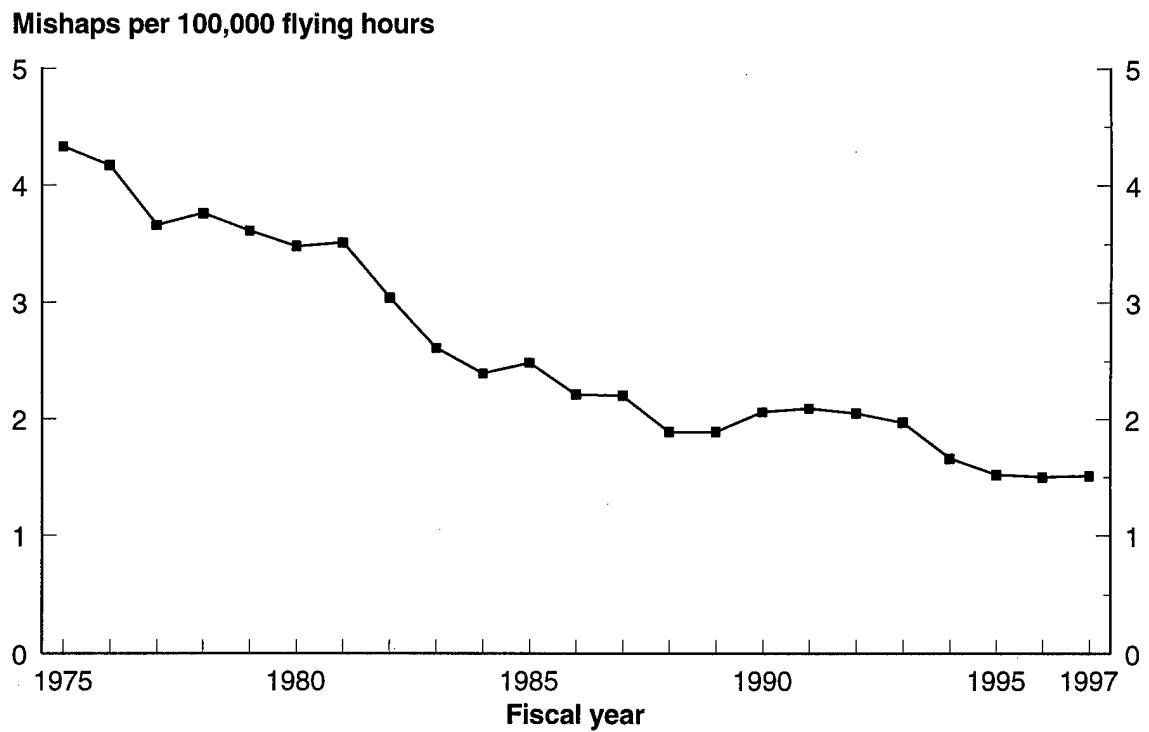
GAO Number of Class A Flight Mishaps (fiscal years 1975-97)



Between fiscal year 1975 and 1997, military aircraft were involved in 3,967 Class A mishaps, which resulted in 4,002 fatalities and 3,603 destroyed aircraft.

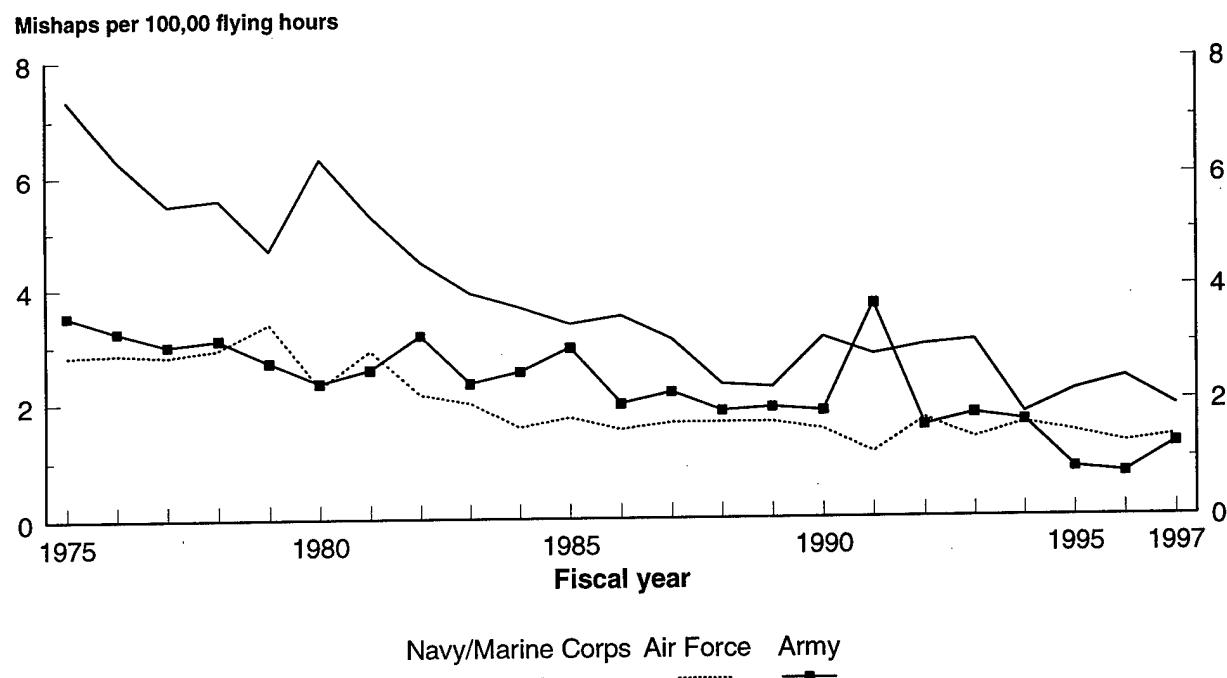
The annual number of Department of Defense (DOD) Class A flight mishaps decreased from 309 in fiscal year 1975 to 68 in fiscal year 1997. In the Navy/Marine Corps, the number declined from 158 to 27, the Air Force from 99 to 29, and the Army from 52 to 12.

GAO DOD Class A Flight Mishap Rate (fiscal years 1975-97)



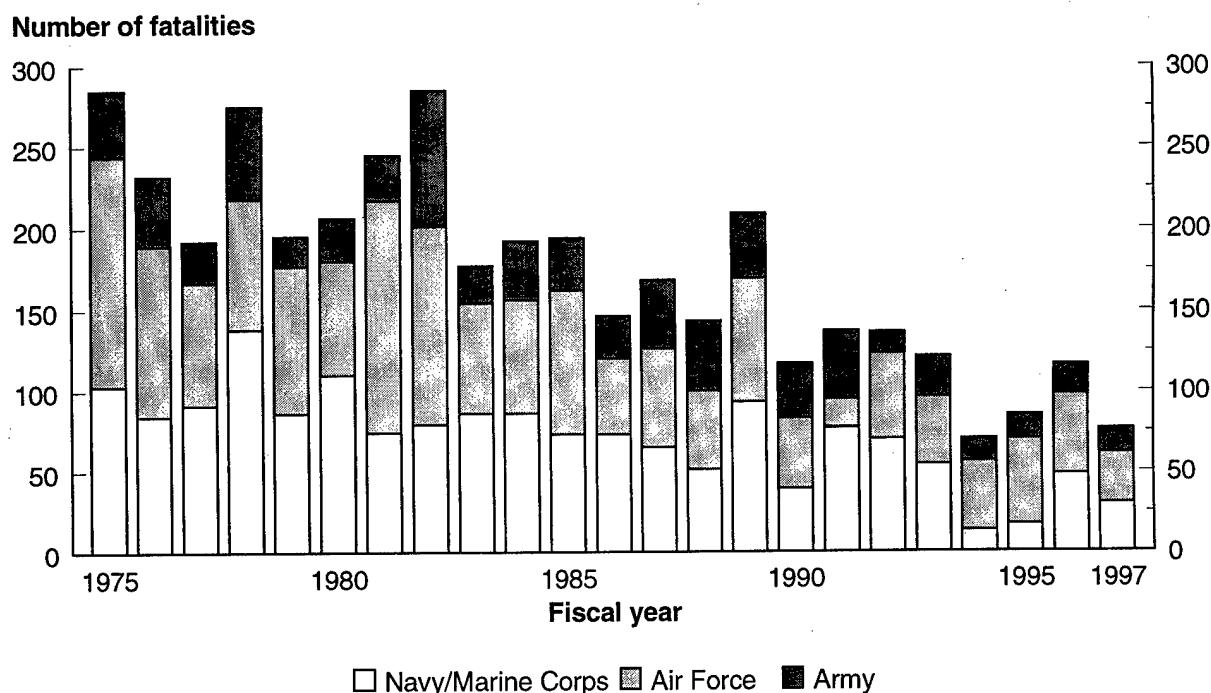
DOD's Class A mishap rate, calculated as the number of accidents per 100,000 flying hours, declined from about 4.3 in fiscal year 1975 to a steady rate of about 1.5 in each of the last 3 fiscal years, 1995 through 1997.

GAO Service Class A Flight Mishap Rates (fiscal years 1975-97)



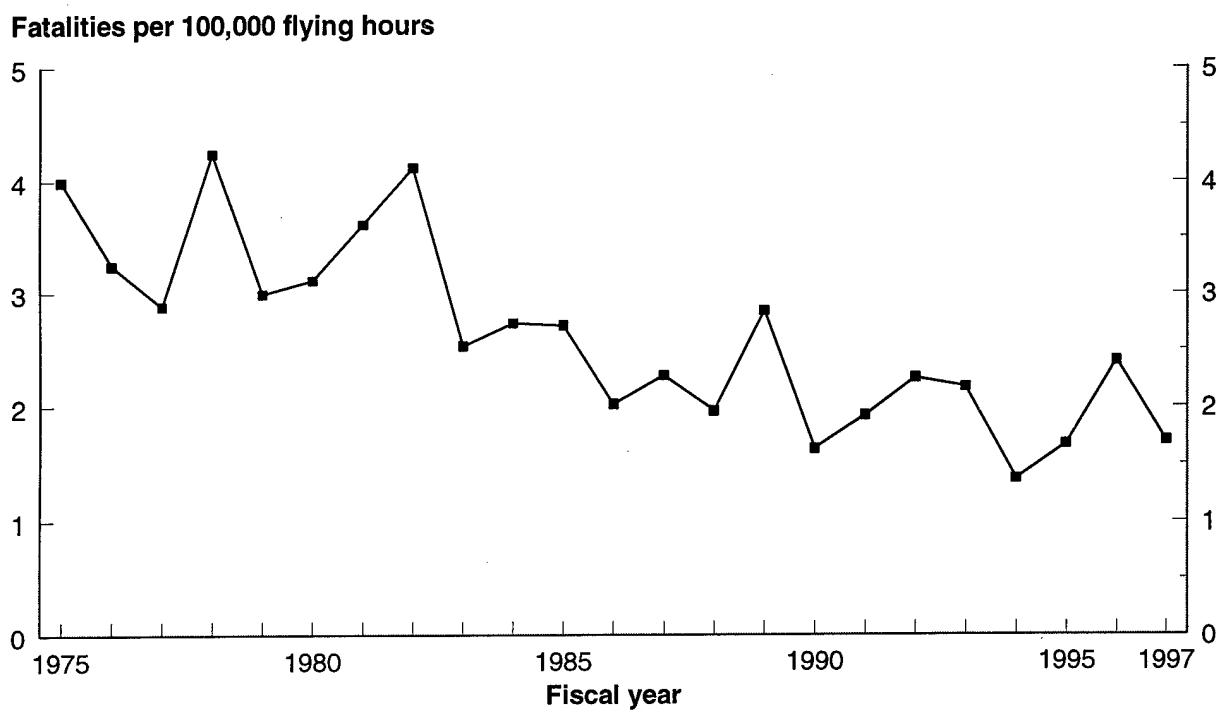
As with the number of mishaps, each of the services has also experienced an overall downward trend in its mishap rate since fiscal year 1975. In particular, the Navy/Marine Corps mishap rate dropped significantly from 7.3 mishaps per 100,000 flying hours in fiscal year 1975 to 1.9 in fiscal year 1997. Air Force rates were decreased from about 2.8 to 1.4 during that period. Army aviation experienced a decrease from 4.3 in fiscal year 1975 to a rate of 1.25 in fiscal year 1997, a rise from its low rate of about 0.7 in 1996.

GAO Class A Flight Mishap Fatalities (fiscal years 1975-97)



The annual number of aviation fatalities has dropped significantly since fiscal year 1975, when DOD reported 285—141 in the Air Force, 103 in the Navy/Marine Corps, and 41 in the Army. In fiscal year 1997, the number of fatalities had fallen to 76—31 in the Air Force, 30 in the Navy/Marine Corps, and 15 in the Army.

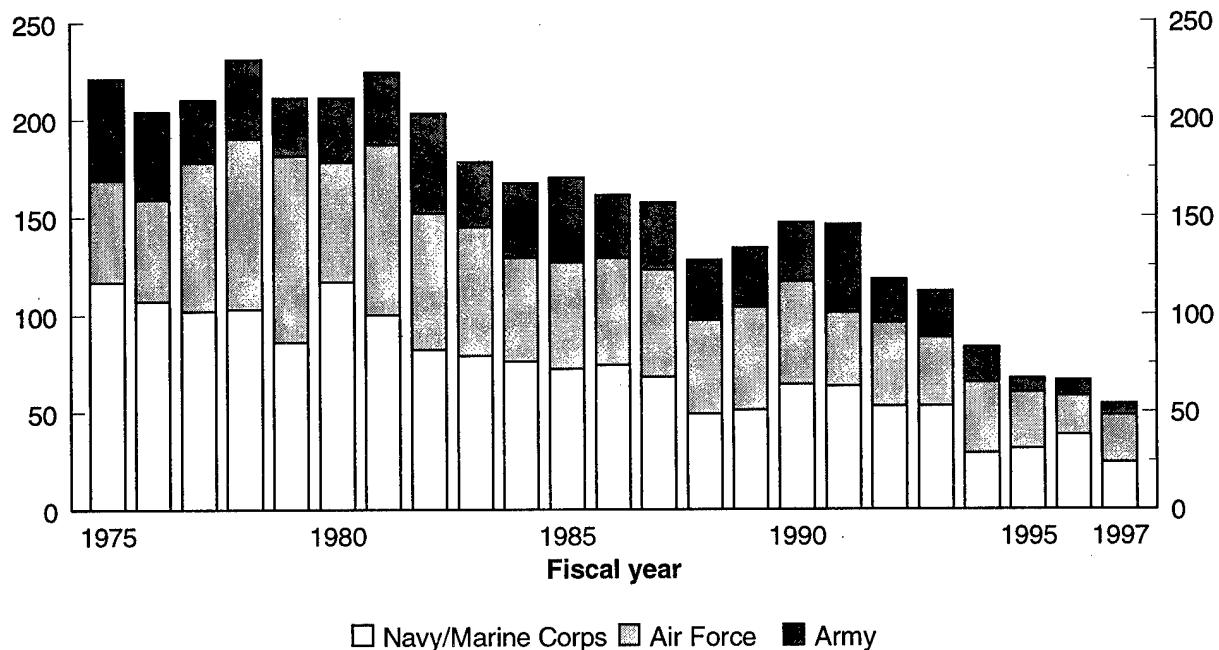
GAO DOD Rate of Class A Fatalities (fiscal years 1975-97)



The number of DOD aviation fatalities per 100,000 flying hours declined from about 4 in fiscal year 1975 to 1.7 in fiscal year 1997.

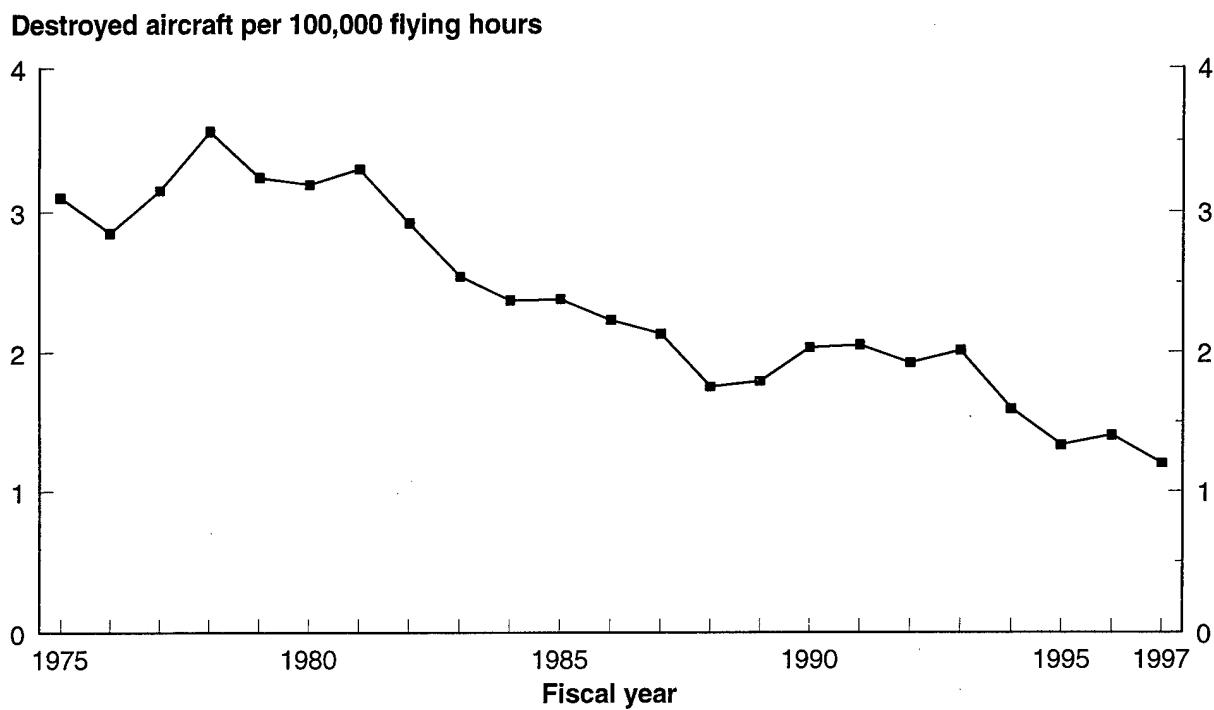
GAO Number of Destroyed Aircraft (fiscal years 1975-97)

Number of destroyed aircraft



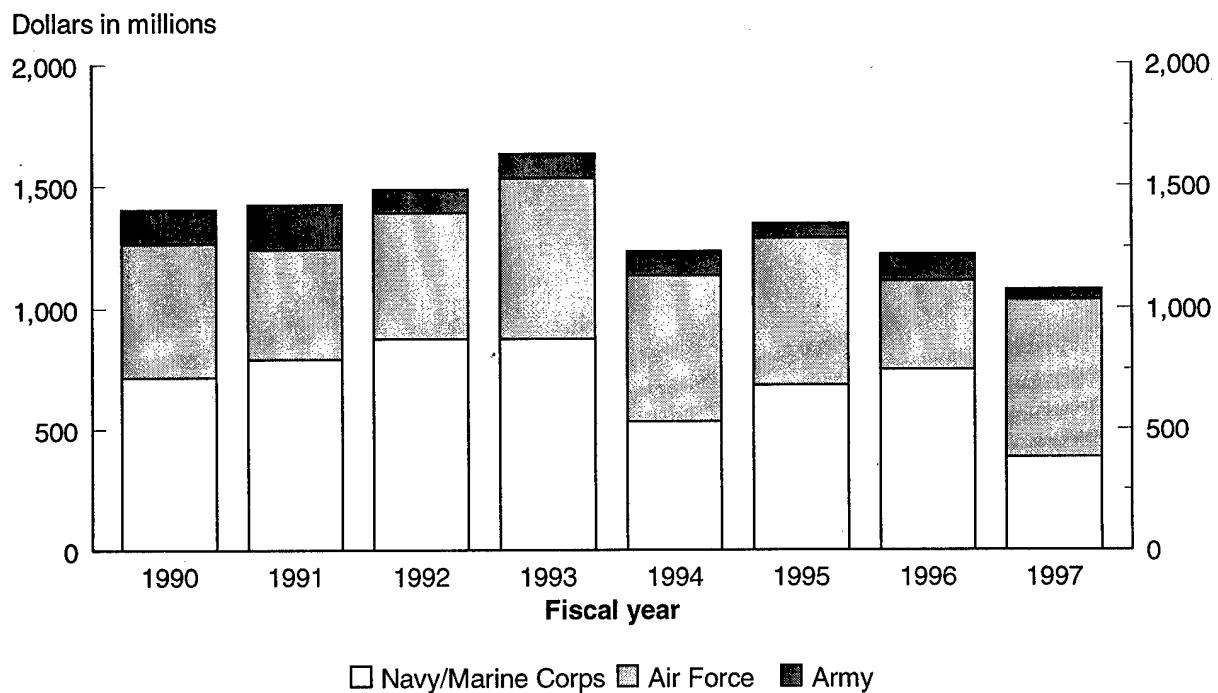
The number of destroyed aircraft resulting from flight mishaps decreased significantly between fiscal year 1975 and 1997. In fiscal year 1975, 221 aircraft were destroyed (117 in the Navy/Marine Corps, 52 in the Air Force, and 52 in the Army). The number of destroyed aircraft decreased to 54 in fiscal year 1997, when the Navy/Marine Corps reported 24, the Air Force 24, and the Army 6.

GAO Rate of Destroyed Aircraft (fiscal years
1975-97)



Between fiscal year 1975 and 1997, the annual rate of destroyed aircraft per 100,000 flying hours declined from 3.1 to 1.2.

GAO Value of Class A Flight Mishap Losses (fiscal years 1990-97)



Since fiscal year 1975, the services have reported the value of Class A flight mishaps totals about \$23.3 billion. The value of Class A losses has been fairly constant over the 1990s given that the number of mishaps in 1997 is less than half the number in 1990. The value of lost aircraft ranges from a high of about \$1.6 billion in fiscal year 1993 to a low of \$1.1 billion in fiscal year 1997. Although fiscal years 1996 and 1997 had historically low numbers of mishaps, the value of Class A losses still totaled to about \$2.3 billion over these 2 fiscal years.